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Claire L. Adida, David D. Laitin, Marie-Anne Valfort

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Claire L. Adida* David D. Laitin† Marie-Anne Valfort‡

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*Corresponding author. University of California San Diego, Department of Political Science, Social Sciences Building #389, 9500 Gilman Drive #0521, La Jolla, CA 92093-0521; cadida@ucsd.edu.

†Stanford University; dlaitin@stanford.edu.

‡Paris School of Economics – Paris 1 Panthéon Sorbonne University; marie-anne.valfort@univ-paris1.fr.

Muslim immigrants to Europe are distinctive on a number of attitudinal measures. In the U.K. Bisin et al. (2007; 2011a) show that the strength of ethnic identity among Muslim immigrants does not dissipate over time, while the strength of ethnic identity among non-Muslim immigrants does. In France, Adida et al. (2012) compare a group of Senegalese Muslim and Christian immigrants on a number of attitudinal measures, and show that Senegalese Muslims exhibit greater attachment to their culture of origin and less attachment to their host country than do Senegalese Christians. One notable area of distinction has been attitudes toward women. In France, Brouard and Tiberj (2011) survey French immigrants and citizens, and reveal distinctive Muslim attitudes toward the status of women. Inglehart (2003) and Fish (2011) corroborate these patterns in their analyses of the World Values Surveys: Muslims are significantly more likely to agree that "a university education is more important for a boy than for a girl", to think that "when jobs are scarce, men should have more rights to a job than women", and to support the idea that "men make better political leaders than women do" [e.g. Fish (2011, pp. 181-193)]. Alexander and Welzel (2011) confirm these findings, reporting that both Muslims in Muslim societies (where more than 50% of adults are Muslim) and Muslims in non-Muslim societies hold more "patriarchal" values than do non-Muslims.[1]

Less-well understood is whether distinctive Muslim attitudes translate into distinctive Muslim behavior. This question is critical if we are to understand Muslim immigrant integration, both economic and social, into European societies. Indeed, three possible mechanisms might link socio-economic integration with distinct behavior toward women. First, distinct behavior toward women might lead to an under or over-investment in female education and thus to differential rates of human-capital accumulation. Second, distinct behavior toward women might affect the balance-of-power women have in their households, and their ability to contribute to consumption and investment decisions.[2] Finally, distinct behavior toward women might trigger a backlash by a

[1] Alexander and Welzel (2011) measure "patriarchal values" as a summary index of the three indicators listed above.

[2] See Duflo (2012) for a review of the literature on the role of female education and bargaining-power on development outcomes.

hosting community that feels culturally threatened.[3]

Empirically, scholars have substantiated a link between immigrant attitudes and behaviors, and socio-economic integration. Bisin et al. (2011b), relying on data from the European Social Survey, show a negative relationship between the strength of an immigrant's ethnic identity and her labor market outcomes.[4] Similarly, Meng and Gregory (2005) and Chiswick and Houseworth (2011) show a positive link between rates of inter-marriage of immigrants and their labor market outcomes. But such investigations have not yet put the question of gender-based behavior of Muslim immigrants to systematic test.

We investigate whether Muslim immigrants in France behave differently toward women than do matched Christian immigrants. France is home to the largest Muslim community in Western Europe both in absolute numbers (an estimated 4.7 million in 2010) and as a percentage of its population (an estimated 7.5% in 2010) [e.g. Pew (2011)]. Furthermore, the issue of gender equality and discrimination in a country that considers itself the cradle of enlightenment and progress has been incendiary. For example, France voted to restrict veiling in 2004 and to ban the full-face covering in 2010.

For purposes of identification of a religious effect on gender behavior, our investigation focuses on a sample of Serer and Joola immigrants to France. Each of these two homogeneous language communities from Senegal is divided along religious lines (Muslim and Catholic), and members from both religions migrated to France at the same time and with the same economic motivations.[5]

[3]See Hainmueller and Hiscox (2007), Hainmueller and Hangartner (2011) and Sniderman et al. (2004) on cultural threats driving immigrant exclusion.

[4]The results apply only to immigrants from a non-European country of origin.

[5]In the late 1990s, approximately 70% of France's Muslims were estimated to originate from North Africa, while 6% were estimated to originate from sub-Saharan Africa (Boyer 1998). Focusing on a smaller and less visible group of immigrants is fundamental to our identification strategy, but it raises issues of generalizability as well. But since sub-Saharan Africans are less readily associated with Islam than are North Africans (Diop 1988), our approach is likely to capture a lower bound of the Muslim effect. We further discuss the scope conditions of our research in a later section of this paper.

In March 2009, we brought together these Senegalese Muslims and Christians, naturally matched on a number of parameters such as nationality, race and migration history, with a random sample of participants from a diverse district of Paris, to play a dictator game.[6] In this game, players were shown the same set of six partners on a large screen revealing only their faces and first names. The first name of each recipient varied across game sessions, such that dictators would see the same face but with alternated religious identities.[7] With this treatment, we therefore avoided confounds between the recipient's ethnic type and the recipient's face and were able to measure dictator behavior toward in-group and out-group men versus women. More precisely, this paper measures behavioral distinctiveness with a difference-in-difference-in-difference analysis, comparing the difference in donations to men vs. women of Senegalese Muslim (SM) and rooted French (FFF)[8] players to that of Senegalese Christian (SX) and rooted French (FFF) players. This analysis enables us to capture, if it exists, the divergence in behavior toward women between Senegalese Muslims, relative to a Senegalese Christian reference group, and rooted French.

Our experimental results indicate a significant divergence between SM and FFF donations to female recipients, which is not matched by SX and FFF patterns. While FFF and SX players tend to favor women over men, SM male players consistently favor men over women. Furthermore,

[6] In this classic experimental game introduced by Kahneman et al. (1986), players view pictures of people whom they have never met and are given money either to keep for themselves or to share with the person (the "recipient") whose picture they are viewing (being assured that the amounts accruing to each recipient will actually be transferred to them). There is no penalty for keeping the entire amount, and no one can influence the players' donations. In other words, the action of giving in the dictator game is traditionally interpreted as capturing unconditional altruism: it is *unconditional* because dictator beliefs about recipient behavior cannot be a factor in the donation, given that recipients take no action in this game.

[7] This type of manipulation is common in correspondence tests, as in Bertrand and Mullainathan (2004). See also Fong and Luttmer (2011) for another example of a dictator game where donors' perception of the recipient is manipulated.

[8] By rooted French, we refer to French citizens with four grandparents born inside metropolitan France. In other words, they are, at least, third-generation French (hence the FFF acronym). We are thus comparing our SX and SM players to those French players who are most deeply rooted in French culture.

such behavior is not limited to male participants: in donations to in-group players, SM women also favor SM men over SM women, while both SX and FFF women favor in-group women over in-group men. When it comes to behavior toward women among Senegalese Muslim and Christian immigrants in France, our results reveal a distinctly Muslim divergence from rooted French behavior.

Our study contributes to research on Muslim immigrant integration into European societies by offering a behavioral account of distinctive behavior toward women among Muslim immigrants. Our behavioral indicator - which captures the donation of money to actual game partners - mitigates social desirability bias, whereby survey respondents may express politically correct, rather than their true, attitudes [e.g. Hainmueller and Hangartner (2011); Kuklinski et al. (1997)]. By masking respondents' true preferences, social desirability bias prevents researchers from identifying effects that may very well exist. Our behavioral approach with monetary stakes gets us closer to identifying players' true preferences.

Furthermore, our approach improves on isolating the Muslim effect from typical confounds such as nationality or ethnicity: relying on a unique identification strategy, we focus on a sample of immigrants who are naturally matched on their country-of-origin as well as the timing of, method of, and reasons for migrating to France. This identification strategy thus resolves a fundamental measurement problem in studies of Muslim immigrants to Europe: Muslim immigrants to France are typically from North Africa, Muslim immigrants to England are typically from South Asia, and Muslim immigrants to Germany are typically from Turkey. Hence, country or region-of-origin confounds religion. Our attention to a small, homogeneous population of Senegalese immigrants to France offers a solution to this measurement problem.

The rest of this paper is as follows. In the next section, we survey the literature on gender relations in Islam. Next, we introduce our research design allowing us to capture the divergence, if it exists, between Muslim and rooted French behavior toward women. We then present our experimental results showing that Muslim immigrants treat women differently from both matched Christian immigrants and rooted French. Next, we address the scope of our results. Finally, we

conclude with implications for future research.

Women and Islam

Scholarship on the place of women in Islam and among Muslims delivers ambiguous results. Historical accounts of women's status in the Middle East claim that Islamic traditions explain female repression in both public and private life in the region [e.g. Mernissi (1987); Sharabi (1992)]. Cross-country analyses suggest that Muslim-majority countries tend to repress their women [e.g. Boone (1996); Dollar and Gatti (1999)]. Survey analysis indicates that Muslims hold distinctive attitudes toward women [e.g. Alexander and Welzel (2011); Bisin et al. (2007), (2011a); Fish (2011); Inglehart (2003)]. And Blaydes and Linzer (2008) explain why and how Islamic fundamentalism represses women.

More recently, carefully controlled analyses that emphasize the role of confounding factors suggest instead that there is no significant relationship between Islam and the repression of women. Ross (2008) contends that oil is an important omitted variable that accounts for female underrepresentation in public life in oil-abundant Muslim countries.[9] Hajj and Panizza (2009) analyze individual-level data and use a difference-in-difference approach to compare the investment of Muslims and Christians in female education in Lebanon. They find "that other things equal, both Muslim and Christian girls receive more education than their male counterparts, and that there is no significant (either statistical or economic) difference between the education gender gap of Muslims and Christians" [e.g. Hajj and Panizza (2009, p. 344)].[10]

[9] According to Ross, oil production reduces the number of women in the work force; this suppresses their political influence (Ross 2008).

[10] Problems undermine their analysis, however: they rely on two populations that share only a small overlap in socio-economic status, introducing estimation bias in regression analyses. This is because the algorithm used in regression analysis extrapolates from a comparison of those overlapping populations (i.e. rich Muslims with poor Maronites), two sub-sets that surely differ on many unobservables. Our strategy, to be explained in the following section, avoids this problem, as the overlap in socio-economic status between our comparison groups – SM and SX – is large.

In this paper, we extend this research to the context of Muslim immigrants in Christian-heritage societies. We weigh in on the debate about a distinct Muslim/Christian cleavage regarding behavior toward women by comparing the behavior of SM (vs. SX) immigrants and their rooted French hosts toward women. Our contribution lies not only with our focus on behavior, but with our efforts to isolate the effect of religion from that of natural confounds such as race and nationality.

Identifying Muslim immigrant behavior in France

To measure cultural divergence in behavior toward women between Muslim immigrants and their hosts, we designed a dictator game where players have an opportunity to altruistically donate to people whom they do not know. In this game set-up, we analyze differential donations toward men vs. women. Our version of the dictator game was played among a series of experimental games, in which we brought together our Senegalese players and a quasi random sample of residents living in the 19th district of Paris.[11]

We conducted these experiments in eight sessions over two weekends in March 2009, with at least ten players attending each session. We chose to conduct our games in the 19th *arrondissement*, a particularly diverse district of Paris. Indeed, according to the 1999 French census, the percentage of individuals living in this district who are born in France is 63.5 (against 82.5 for all Paris). We aimed for an ethnically diverse setting because we did not want any of our players to consider the ethno-religious diversity of our game sessions (and notably the presence of SM and SX players) as exceptional, thus avoiding potential social-desirability bias in their behavior.

We recruited 29 Senegalese players: 18 self-identified as Muslims (SM) and 11 as Christians (SX). These Senegalese Muslim and Christian players were recruited from three separate networks. Two of the networks came from ethnographers who were conducting family histories for our wider research project; they were asked to recruit Senegalese subjects by merely telling them they had heard about experiments with a chance to earn a lot of money. No mention was made about

[11] For purposes of ethical oversight, all experimental protocols were reviewed and approved by the XXXXXX IRB.

Senegalese specificity or religion. The third network came from a Senegalese night watchman (not from the Joola or Serer community) who worked at a student dorm. He was never informed about the purpose of the games, but was paid for each of his Joola and Serer recruits who showed up for registration and participated in the games. Here again, no mention was made about Senegalese specificity or region at any point in the recruitment or registration.

We complemented our game sessions with the recruitment of 62 non-Senegalese players, among which 23 were FFF. We recruited these players using a stratified (by population density) but not always fully random recruitment procedure centered on the 21 metro stations in the 19th district of Paris. In a fully random protocol, we assigned a weight to each metro station based on the density of the area in which it is located, with the higher density stations getting more cards in our random draw. Each recruitment team drew a metro station for each recruitment day, and then a number from 1 to 10 to determine which passer-by to invite as a game recruit. But, because we wanted to ensure a large number of interactions between our SX/SM and our FFF players for our larger project, we deviated from this protocol to assure ourselves a sufficient number of FFF players. When potential FFF subjects walked by, recruiters were instructed to ignore the sequence of selection, and to ask them to participate in our experiment. Passers-by who were willing to hear our appeal were told that they could win up to 148 euros for about two and a half hours of game participation,[12] games which were designed to investigate "how people from Ile-de-France [Parisian region] make decisions about money." Table 1 provides summary statistics for our three groups of players, SM, SX and FFF.[13]

In our version of the dictator game, players (whom we call dictators) sat in groups of ten in a single room and were shown the same set of six partners (whom we call recipients) on a large screen revealing only their faces and their first names. The dictators were asked to make a decision to allocate a = $\{0, 1, 2, 3, 4, 5\}$ euros to each recipient, out of 5 euros allotted to

[12]This stands for roughly 8.5 times the hourly minimum wage in France in 2009.

[13]Note that our sample of SM and SX is balanced for all variables listed in Table 1, except religiosity. Our results hold whether or not we control for religiosity.

them for each recipient. Dictators were assured that the amounts accruing to each recipient would actually be transferred to them, and this indeed took place. Dictators were handed a piece of paper and provided with enough space to record their decisions in a private manner, albeit in a public space.[14] We varied the first names of the recipients such that dictators would see the same face but with alternated religious identities [e.g. Bertrand and Mullainathan (2004); Fong and Luttmer (2011)]. More precisely, among the six recipients, two were apparent rooted French with typical French names, two were ambiguous with alternatively Muslim and Christian names (such that dictators could reasonably think they were rooted French with Christian names or North Africans with Muslim names), and two were apparent black Africans (these were our Senegalese recipients, alternatively SM or SX). For half of the sessions, subjects viewed one of the ambiguous recipients and one of the Senegalese recipients with a Christian name and the other with a Muslim name; for the other half of the sessions, this was reversed. The purpose of this treatment is to avoid confounds between the ethnic type and the face of the recipient.

Figure 1 illustrates the faces and alternating names of our recipients. It shows, for example, that a random half of our dictators could choose to give money to Khadija and Michel, while the other random half could choose to give money to Joséphine and Aboubacar. Khadija and Joséphine on one hand, and Michel and Aboubacar on the other, are exactly the same recipient: the only parameter that varies is their first name, one that signals a Muslim affiliation (Khadija and Aboubacar) and one that signals a Christian affiliation (Joséphine and Michel). This protocol thus allows us to measure, all else equal, generosity levels of FFF, SM and SX dictators toward (1) male and female rooted French recipients ({Jean-Marc, Georges} – {Sylvie, Christine}), (2) male and female North African recipients (Mohammed – Farida), and (3) male and female co-ethnic and co-religious (heretofore *in-group*) recipients ((Aboubacar – Khadija) for SM, (Michel

[14]Players were not prompted as to why they should donate. Our protocol reads: "In this game, we are projecting pictures of individuals on the wall. You will see a total of six pictures, sequentially. For each face, we will give you 5 euros. You are to decide how much of these 5 euros (0, 1, 2, 3, 4 or all of it, 5) you wish to give to the individual in the picture. This individual will never know who you are or how much you will have given him/her. Your decision is therefore entirely private."

– Joséphine) for SX, and ({Jean-Marc, Georges} – {Sylvie, Christine} for FFF). A difference-in-difference analysis, such as one that compares FFF versus SM dictator donations to female vs. male recipients, cleanly isolates the effect of gender on generosity levels among dictators of various types. Furthermore, a difference-in-difference-in-difference analysis, which compares the extent to which SM and SX dictators diverge from FFF dictators in their donations to female vs. male recipients, identifies - if it exists - the *Muslim* effect on behavior toward women.

Our results, from both difference-of-means (Tables 2 and 3) and regression (Tables 4 and 5) analyses, indicate that SM dictators distinguish themselves from FFF dictators in a way that SX dictators do not: while both FFF and SX dictators tend to favor women over men in several different contexts, SM dictators favor men over women instead.[15]

Tables 2 and 3, relying on differences-of-means, offer an initial glimpse into the divergent patterns of donations we have identified among SM, SX and FFF dictators. In Tables 2A-2C, focusing on male donations, we see that SM male dictators consistently give more money to men than to women (column (a)), whether the recipient is an average recipient (Table 2A), a rooted French recipient (Table 2B) or an in-group recipient (Table 2C); by contrast, both SX and FFF male dictators consistently give more money to women than to men (columns (b) and (c)). A difference-in-difference analysis suggests that both SM and SX male dictators differ from FFF male dictators; but differential donations follow the same direction for SX and FFF male dictators, while they follow opposite directions for SM and FFF male dictators. For example, Senegalese Christian and rooted French male dictators both favor rooted French women over rooted French men: Senegalese Christian male dictators give them on average 1 more euro, while rooted French male dictators give them on average 49 more centimes. By contrast, SM male dictators exhibit the opposite tendency, giving FFF men an average 38 centimes more than FFF women. On average,

[15] A second pattern stands out in our results: Senegalese Muslims tend to be less generous toward all players in our dictator game. This result is analyzed in XXXXX, who find that Muslim immigrants show significantly lower assimilation (i.e., higher attachment to their culture of origin and lower identification with their host culture and society) than do their Christian counterparts.

SX and FFF behavior toward women converge, while SM behavior toward women diverges from the FFF norm.

Tables 3A-3C provide results from difference-of-means analyses of the donations of female dictators. These average patterns are also revealing: SM, SX and FFF female dictators all tend to favor women over men - and thus do not differ significantly in this regard - *except* when it comes to in-group donations. Here, SM female dictators favor in-group men over in-group women, while both SX and FFF female dictators favor in-group women over in-group men. The difference-in-difference analysis indicates that these effects are statistically significant, confirming that SM female dictators diverge in their treatment of in-group women from both SX and FFF female dictators.

In Tables 4 and 5, we turn to regression analysis with the following model, applied first to male SM, SX and FFF dictators (Table 4) and then to female SM, SX and FFF dictators (Table 5):

$$\begin{aligned}\text{Donation} =& a + b_1.(\text{SM} \rightarrow \text{FemaleRecipient}) \\ &+ b_2.(\text{SX} \rightarrow \text{MaleRecipient}) + b_3.(\text{SX} \rightarrow \text{FemaleRecipient}) \\ &+ b_4.(\text{FFF} \rightarrow \text{MaleRecipient}) + b_5.(\text{FFF} \rightarrow \text{FemaleRecipient}) \\ &+ \mathbf{b'_6}.(\mathbf{X}) \\ &+ \mathbf{b'_7}.(\textbf{Session(Mundlak-Chamberlain)}) \\ &+ \mathbf{b'_8}.(\textbf{RecipientEthnoReligiousID}) \\ &+ \mathbf{b'_9}.(\textbf{RecipientFace}) + e\end{aligned} \tag{1}$$

where *Donation* refers to the amount given by the dictators to the recipients in the dictator game. The dummy *SM* $\rightarrow$ *FemaleRecipient* is equal to 1 if the dictator is SM and the recipient is female, and to 0 otherwise. Similarly, the dummy *SX* $\rightarrow$ *MaleRecipient* is equal to 1 if the dictator is SX and the recipient is male, and to 0 otherwise; the dummy *SX* $\rightarrow$ *FemaleRecipient* is equal to 1 if the dictator is SX and the recipient is female, and to 0 otherwise; the dummy *FFF* $\rightarrow$ *MaleRecipient* is equal to 1 if the dictator is FFF and the recipient is male, and to 0 otherwise; and the dummy

FFF $\rightarrow$ *FemaleRecipient* is equal to 1 if the dictator is FFF and the recipient is female, and to 0 otherwise. The omitted interaction is the donation of SM dictators to male recipients. Coefficient b_1 thus compares the donation of SM dictators to female recipients with that of SM dictators to male recipients. The difference between coefficients b_3 and b_2 compares the donation of SX dictators to female recipients with that of SX dictators to male recipients. The difference between coefficients b_5 and b_4 compares the donation of FFF dictators to female recipients with that of FFF dictators to male recipients. With ***X***, we control for a vector of socioeconomic characteristics of the dictator: the dictator's age, religiosity, education level, and family income; whether the dictator was born in France; whether the dictator is a French national; and whether the dictator personally knew someone who participated in one of our earlier experimental sessions.[16] $\mathbf{b_6'}$ summarizes the effect of this vector $\mathbf{X}$.[17] ***Session(Mundlak-Chamberlain)*** is a vector of the average value of donations to all recipients in the session, such that $\mathbf{b_7'}$ captures the effect of session-specific characteristics.[18] ***RecipientEthnoReligiousID*** is a vector of controls for the ethno-religious identity of the recipient (relevant only for the analysis of donations to all recipients) and ***RecipientFace*** is a vector of controls for the face of the recipient (relevant only for the analysis of donations to all recipients and to French recipients, since the analysis of donations to in-group recipients already naturally controls for the face of the recipient). We cluster the standard errors at the individual level, since donations from the same player to different recipients cannot be considered as independent from one another.

Table 4 presents results from a regression of male dictator donations to all recipients (Model (1)), to rooted French recipients (Model (2)), and to in-group recipients (Model (3)).[19] Three

[16]The results we present in Tables 4 and 5 are specifications without these controls. We discuss robustness checks, in which we include these controls, later in this section.

[17]The notation $\mathbf{b_6'}$ is the transpose of $\mathbf{b_6}$, a mathematical requirement for the product of two vectors.

[18]We rely on this Mundlak-Chamberlain device, rather than session fixed effects, which we cannot use in our model.

[19]Recall that by *in-group*, we refer to recipients who are both co-ethnic and co-religious with the dictator. For SM dictators, the in-group is a Senegalese Muslim; for SX dictators, it is a Senegalese Christian, and for rooted French

patterns stand out. First, the negative sign on coefficient b_1 indicates that SM male dictators consistently give less money to female recipients than to male recipients, and this holds across all three models. This difference, however, is statistically significant only when it comes to in-group donations (see the p-value for Δ_1). Second, the difference between coefficients b_3 and b_2 indicates that SX male dictators consistently give more money to female recipients than to male recipients, and this also holds across all three models. Moreover, this difference is statistically significant - or closely approaches statistical significance - in all three models (see the p-value for Δ_2). Finally, the difference between coefficients b_5 and b_4 indicates that FFF male dictators also consistently give more money to women than to men across all three models. This difference is statistically significant for Model (1) only (see the p-value for Δ_3). In sum, the direction of donations indicates that SM male dictators distinguish themselves from SX and FFF male dictators; however, statistical significance is not achieved throughout. These patterns are consistent with those identified in our difference-of-means analysis in Tables 2A-C, columns (a), (b) and (c).

Our identification strategy requires that we perform a difference-in-difference analysis and systematically compare SM and SX behavior with FFF behavior. This analysis reveals that SX do not diverge from FFF the way that SM do: they either do not differ significantly from FFF (p-values of 0.249 and 0.465 in Models (2) and (3), respectively), or if they do (p-value of 0.031 in Model (1)), it is only because their pro-female bias is substantively smaller than that of FFF male dictators. By contrast, SM male dictators differ substantively and significantly (in Models (1) and (3)) from FFF male dictators, by revealing a pro-male rather than a pro-female bias. These results are consistent with those identified in our difference-of-means analysis in Tables 2A-C, columns (c-a) and (c-b). Consequently, the difference-in-difference-in-difference, comparing the extent to which SM and SX male dictators differ from FFF male dictators in their donations to male vs. female recipients, confirms a distinct SM pattern across *all three* models: SM male dictators, who consistently favor male over female recipients, diverge from FFF male dictator behavior more than do SX male dictators, whose pro-female bias mirrors FFF behavior.

dictators, it is a rooted French.

Table 5 presents results from female dictator donations to all recipients (Model (1)), to rooted French recipients (Model (2)), and to in-group recipients (Model (3)). The patterns are remarkable: for the most part, SM female dictators – just like SX and FFF female dictators – favor female over male recipients (although statistical significance is not achieved throughout), *except* when it comes to in-group donations: here, SM female dictators favor men over women, while both SX and FFF female dictators continue to favor women over men (and significantly so for SX). The difference-in-difference-in-difference analysis confirms these results: SM in-group donation patterns diverge from FFF in-group donation patterns, while SX in-group donation patterns do not.[20]

This section has offered a behavioral analysis of Muslim behavior toward women relative that of their hosts. Using a novel identification strategy that isolates the religious effect by comparing SM and SX players, our analysis confirms patterns previously identified by survey research [e.g. Bisin et al. (2007), (2011a); Brouard and Tiberj (2011); Fish (2011); Inglehart (2003)]. When it comes to behavior toward women, our SM players distinguish themselves from their hosts in a way that is not apparent for SX players: they favor men over women.

Discussion

Our identification strategy relies on a sample of SM and SX immigrants in France. Our focus on internal validity thus raises two concerns with external validity: the fact that our sample of migrant SM and SX may be systematically different from those who stayed in Senegal; and the fact that we focus on Senegalese Muslims in France rather than North African Muslims, who constitute the large majority of the immigrant Muslim community in France. In this section, we consider the scope of our results. Furthermore, we address the concern that our dictator game might miss

[20] We check the robustness of our results by adding, sequentially, controls for: whether the dictator personally knew someone who played in a previous session; the age of the dictator; the religiosity of the dictator; and the education and family income of the dictator, whether the dictator was born in France and whether the dictator is a French national. We also run all specifications as ordered probit rather than linear regressions. None of the difference-in-difference-in-difference results change as a result of these robustness checks.

a wider set of intragroup bargains among Senegalese Muslim men and women and thus could underestimate real-world generosity toward women.

First, we consider whether the migrating SM community is significantly different from that which did not migrate, such that the differences we observe in our dictator game are driven by unique characteristics of the SM population sampled. We address this source of bias by turning to behavioral indicators of gender discrimination *in Senegal* using Afrobarometer data from Senegal. We merge data from all three rounds (2002, 2005 and 2008), and focus on a sub-sample of Christian and Muslim respondents from the Joola and Serer language communities. These data allow us to measure behavior by focusing on the three questions that were common to all three rounds and which measured respondent behavior during the interview, rather than attitudes toward survey questions: the interviewer's assessment of whether the respondent's spouse was present during the interview, whether the respondent summoned others to answer questions, and whether the respondent was influenced by others in her responses. Our regression analysis comparing SM and SX male and female respondents includes fixed effects for each of the Afrobarometer rounds, socio-demographic controls of the respondent and the household, and socio-demographic controls of the interviewer; and clusters the standard errors at the regional level. Our results in Table 6 show that what we observed in the laboratory in Paris is compatible with what Afrobarometer surveyors reported in Senegal: relative to male SM vs. male SX, female SM are more likely to have been influenced by others during their interview than are female SX ($p = 0.01$ for the difference-in-difference).[21] These results allay concerns that those SM who migrated to France are systematically different, at least with regard to behavior toward women, from those who stayed in Senegal.

Second, SM migrants might systematically differ from other Muslims in France, in such a way that prevents us from generalizing about Muslim immigrants to France. In what direction might

[21] Results hold in a logit specification. Furthermore, difference-of-means analyses (not presented here) indicate that SM women were more likely than SX women to have a spouse present and to have been influenced by someone during the interview (statistically significant differences at least at the 95% confidence level).

our reliance on SM – rather than North African Muslims – bias our results? Recall first that our reliance on Senegalese Muslims, rather than North African Muslims, is precisely what enables us to identify a Muslim effect, controlling for country-of-origin and ethnicity. Furthermore, according to Diop (1988), the French population associates Black African Muslims less readily with Islam than they do North African Muslims, because Black African Muslims speak little to no Arabic and interact indiscriminately with African Muslims and African non-Muslims [e.g. Adida, Laitin and Valfort (2010)]. If true, then our estimate is likely to be a lower-bound on the measure of behavior toward women among Muslim immigrants to France.

Finally, one could argue that the differential donations we observe in our dictator game do not capture the fact that Muslims are less generous toward women than are Christians, but the fact that Muslims prefer to support women through alternative channels – for example, by keeping the money they earn in our laboratory games and taking it home to their wives. Put differently, FFF or SX dictators might donate more to Christian women because they view them as more vulnerable and thus deserving of their generosity, while SM might donate less to Muslim women due to the belief that women will be taken care of by their family. We rule out this possibility by emphasizing the fact that Muslims in our experiment (and notably Muslim men) do not discriminate against Muslim women only. What we find is a pervasive lack of generosity toward all women on the part of male Muslim players. When given the opportunity to donate to the average female recipient, or to rooted French female recipients, male Muslim players continue to refrain themselves. Our experiments are thus capturing a phenomenon that cannot be explained merely by intra-group gender bargains.

Conclusion

This paper has identified a distinct Muslim immigrant behavior toward women in France, setting Senegalese Muslims apart from Senegalese Christians and from their rooted French hosts. Relying on a careful identification strategy and analyzing behavior rather than self-reported attitudes, it

isolates the religious effect from national, racial and ethnic confounds. Senegalese Muslims, our analysis demonstrates, favor men over women in a lab experiment, while their rooted French hosts favor women over men. This result identifies a specific Muslim effect, since matched Senegalese Christians in the same lab experiment mirror rooted French behavior by favoring women over men. Therefore, this paper not only replicates results from previous survey research [e.g. Bisin et al. (2007), (2011a); Brouard and Tiberj (2011); Fish (2011); Inglehart (2003)]; it improves them by offering evidence of a behavioral difference, and by isolating a religious effect.

Previous research has found the economic integration of Senegalese Muslim immigrants to France to be problematic [e.g. Adida et al. (2010)]. Although this paper cannot explain the lapsed economic integration of Muslims in France, it highlights a potential area for further investigation. In a laboratory experiment, Muslims deviate from French norms of generosity toward women while matched Christians do not. Research has shown that cultural distinctiveness can impede economic progress.[22] For instance, relying on 400 interviews with human resources managers in large French firms, Bouzar and Bouzar (2009) show that H.R. personnel report partly conditioning their hiring decisions on their beliefs about what Muslims will do to the esprit-de-corps of their work teams. They list Muslims' behavior toward women among the factors underlying their preferences for hiring non-Muslims over Muslims. Research has also shown that there is a link between female empowerment and economic development.[23] Investigating whether Muslim immigrants owe their economic predicament in France to their own cultural norms is thus a natural avenue for future research. The question of Muslim integration into Europe, and the gender issues that surround it, are too important to allow either prejudice or denial to reign.

[22] See, for example, Bisin et al. (2011b).

[23] For a summary of this literature, see Duflo (2012).

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Tables

Table 1: Summary statistics for participants in the 2009 dictator game

Summary statistics for SM, SX and FFF participants in March 2009

Variable	SM	SX	FFF
Female	0.44	0.55	0.52
	(N=18)	(N=11)	(N=23)
Age	33.56	31.45	42.74
	(N=18)	(N=11)	(N=23)
Education	7.59	7.63	8.57
	(N=17)	(N=8)	(N=23)
Religiosity	2.71	4.9	1.65
	(N=17)	(N=10)	(N=23)
Political ideology	4.73	4.43	4.26
	(N=15)	(N=7)	(N=21)
Born in France	0.06	0.09	0.91
	(N=18)	(N=11)	(N=23)
Family income	3.87	4	5.52
	(N=15)	(N=9)	(N=23)
French national	0.17	0.18	1.00
	(N=18)	(N=11)	(N=23)
Total N	18	11	23

Notes: The table reports arithmetic means for the sub-samples of SM, SX, and FFF players. "Female" is a dummy variable that takes the value 1 if the individual is female, and 0 otherwise. "Age" is equal to the age of the individual. "Education" is a categorical variable ranging from 1 (less than primary school completed) to 10 (higher than college degree completed). "Religiosity" is a categorical variable ranging from 1 (never attends religious services) to 7 (attends religious services several times a week). "Political ideology" is a categorical variable ranging from 1 (most left-wing) to 10 (most right-wing). "Born in France" is a dummy variable that takes the value 1 if the individual is born in France, and 0 otherwise. "Family income" is a categorical variable ranging from 1 (less than 500 euros a month) to 11 (more than 7500 euros a month). "French national" is a dummy variable that takes the value 1 if the individual is a French national, and 0 otherwise. Note that our sample of SM and SX is balanced on all these variables, except for religiosity. Our results hold whether or not we control for these variables.

Table 2: Male dictator donations, difference-of-means analysis

(A) Senegalese Muslim, Senegalese Christian, and Rooted French donations to all recipients

	Muslim Dictator (a)	Christian Dictator (b)	French Dictator (c)	Difference-of-means (b-a)	(c-a)	(c-b)
All female recipients (d)	0.27 (N=30)	1.67 (N=15)	2.06 N=33	Δ_1=+1.40 p=0.00	Δ_2=+1.79 p=0.00	Δ_3=+0.39 p=0.32
All male recipients (e)	0.70 (N=30)	1.53 (N=15)	1.42 (N=33)	Δ_4=+0.83 p=0.03	Δ_5=+0.72 p=0.03	Δ_6=-0.11 p=0.78
Difference (e-d)	Δ_7=+0.43 p=0.06	Δ_8=-0.13 p=0.75	Δ_9=-0.64 p=0.09	**Diff-in-Diff**: **Sig. at 99%**	**Diff-in-Diff**: **Sig. at 99%**	**Diff-in-Diff**: **Sig. at 99%**

(B) Senegalese Muslim, Senegalese Christian, and Rooted French donations to Rooted French recipients

	Muslim Dictator (a)	Christian Dictator (b)	French Dictator (c)	Difference-of-means (b-a)	(c-a)	(c-b)
French female recipients (d)	0.38 (N=13)	2.00 (N=6)	1.86 (N=14)	Δ_1=+1.62 p=0.00	Δ_2=+1.47 p=0.00	Δ_3=-0.14 p=0.80
French male recipients (e)	0.76 (N=17)	1.00 (N=9)	1.37 (N=19)	Δ_4=+0.24 p=0.57	Δ_5=+0.60 p=0.20	Δ_6=+0.37 p=0.43
Difference (e-d)	Δ_7=+0.38 p=0.28	Δ_8=-1.00 p=0.06	Δ_9=-0.49 p=0.37	**Diff-in-Diff**: **Sig. at 99%**	**Diff-in-Diff**: **Sig. at 99%**	Diff-in-Diff: Not sig.

(C) Senegalese Muslim, Senegalese Christian, and Rooted French donations to in-group recipients

	Muslim Dictator (a)	Christian Dictator (b)	French Dictator (c)	Difference-of-means (b-a)	(c-a)	(c-b)
Coethnic female recipients (d)	0.14 (N=7)	3.00 (N=1)	1.86 (N=14)	Δ_1=+2.86 p=Not available	Δ_2=+1.71 p=0.00	Δ_3= -1.14 p=Not available
Coethnic male recipients (e)	1.33 (N=3)	2.00 (N=4)	1.37 (N=19)	Δ_4=+0.67 p=0.44	Δ_5=+0.04 p=0.94	Δ_6=-0.63 p=0.46
Difference (e-d)	Δ_7=+1.19 p=0.05	Δ_8=-1.00 p=Not available	Δ_9=-0.49 p=0.37	Diff-in-Diff: Not available	**Diff-in-Diff**: **Sig. at 99%**	Diff-in-Diff: Not available

Table 3: Female dictator donations, difference-of-means analysis

(A) Senegalese Muslim, Senegalese Christian, and Rooted French donations to all recipients

	Muslim Dictator (a)	Christian Dictator (b)	French Dictator (c)	Difference-of-means (b-a)	(c-a)	(c-b)
All female recipients (d)	1.38 (N=24)	2.06 (N=18)	2.39 (N=36)	Δ_1=+0.68 p=0.04	Δ_2=+1.01 p=0.00	Δ_3=+0.33 p=0.26
All male recipients (e)	0.96 (N=24)	1.67 (N=18)	1.97 (N=36)	Δ_4=+0.71 p=0.01	Δ_5=+1.01 p=0.00	Δ_6=0.31 p=0.28
Difference (e-d)	Δ_7=-0.42 p=0.16	Δ_8=-0.39 p=0.18	Δ_9=-0.42 p=0.15	Diff-in-Diff: Not sig.	Diff-in-Diff: Not sig.	Diff-in-Diff: Not sig.

(B) Senegalese Muslim, Senegalese Christian, and Rooted French donations to rooted French recipients

	Muslim Dictator (a)	Christian Dictator (b)	French Dictator (c)	Difference-of-means (b-a)	(c-a)	(c-b)
French female recipients (c)	1.38 (N=13)	2.11 (N=9)	2.14 (N=21)	Δ_1=+0.73 p=0.14	Δ_2=+0.76 p=0.05	Δ_3=+0.03 p=0.95
French male recipients (d)	0.73 (N=11)	1.67 (N=9)	1.6 (N=15)	Δ_4=+0.94 p=0.01	Δ_5=+0.87 p=0.04	Δ_6=-0.07 p=0.87
Difference (d-c)	Δ_7=-0.65 p=0.08	Δ_8=-0.44 p=0.35	Δ_9=-0.54 p=0.21	Diff-in-Diff: Not sig.	Diff-in-Diff: Not sig.	Diff-in-Diff: Not sig.

(C) Senegalese Muslim, Senegalese Christian, and Rooted French donations to in-group recipients

	Muslim Dictator (a)	Christian Dictator (b)	French Dictator (c)	Difference-of-means (b-a)	(c-a)	(c-b)
Coethnic female recipients (d)	0.33 (N=3)	2.33 (N=3)	2.14 (N=21)	Δ_1=+2.00 p=0.01	Δ_2=+1.81 p=0.01	Δ_3=-0.19 p=0.67
Coethnic male recipients (e)	1.40 (N=5)	1.67 (N=3)	1.60 (N=15)	Δ_4=+0.27 p=0.63	Δ_5=+0.20 p=0.70	Δ_6=-0.07 p=0.89
Difference (e-d)	Δ_7=+1.07 p=0.09	Δ_8=-0.66 p=0.23	Δ_9=-0.54 p=0.21	**Diff-in-Diff**: **Sig. at 99%**	**Diff-in-Diff**: **Sig. at 99%**	Diff-in-Diff: Not sig.

Table 4: Regression analysis of male dictator donations

	Model (1) All recipients		Model (2) FFF recipients		Model (3) In-group recipients	
	Coefficient	St. Error	Coefficient	St. Error	Coefficient	St. Error
(1) SM $\rightarrow$ FemaleRecipient	-0.169	(0.290)	-0.557	(0.504)	-1.196*	(0.334)
(2) SX $\rightarrow$ MaleRecipient	0.829	(0.439)	0.196	(0.432)	0.642	(0.678)
(3) SX $\rightarrow$ FemaleRecipient	1.188*	(0.457)	0.999	(0.803)	1.667*	(0.297)
(4) FFF $\rightarrow$ MaleRecipient	0.743	(0.501)	0.659	(0.597)	0.051	(0.591)
(5) FFF $\rightarrow$ FemaleRecipient	1.633*	(0.524)	0.891	(0.681)	0.514	(0.568)
P-value: $\Delta_1 = (1) = 0$	0.565		0.280		0.001	
P-value: $\Delta_2 = (3) - (2) = 0$	0.031		0.125		0.105	
P-value: $\Delta_3 = (5) - (4) = 0$	0.002		0.726		0.308	
P-value: SX vs. FFF Difference-in-Difference=0	0.031		0.249		0.465	
P-value: SM vs. FFF Difference-in-Difference=0	0.002		0.159		0.006	
P-value: Difference-in-Difference-in-Difference=0	**0.073**		**0.003**		**0.004**	
Session (Mundlak-Chamberlain)	Yes		Yes		Yes	
Recipient Ethno-religious identity	Yes		N/A		N/A	
Recipient face	Yes		Yes		N/A	
R^2	0.266		0.221		0.190	
Observations	156		78		48	

Notes: The table reports OLS estimates. The unit of observation is a dyad comprising of a SM, SX or FFF male dictator and one of the six recipients. The dependent variable is categorical, ranging from 0 (the dictator gives nothing to the recipient) to 5 (the dictator gives his total endowment to the recipient). "SM $\rightarrow$ FemaleRecipient" is a dummy variable that takes the value 1 if the dictator is SM and the recipient is female, and 0 otherwise. "SX $\rightarrow$ MaleRecipient" is a dummy variable that takes the value 1 if the dictator is SX and the recipient is male, and 0 otherwise. "SX $\rightarrow$ FemaleRecipient" is a dummy variable that takes the value 1 if the dictator is SX and the recipient is female, and 0 otherwise. "FFF $\rightarrow$ MaleRecipient" is a dummy variable that takes the value 1 if the dictator is FFF and the recipient is male, and 0 otherwise. "FFF $\rightarrow$ FemaleRecipient" is a dummy that takes the value 1 if the dictator is FFF and the recipient is female, and 0 otherwise. Standard errors are clustered at the dictator level. In all tables, * indicates statistical significance at least at the 5% level.

Table 5: Regression analysis of female dictator donations

	Model (1) All recipients		Model (2) FFF recipients		Model (3) In-group recipients	
	Coefficient	St. Error	Coefficient	St. Error	Coefficient	St. Error
(1) SM $\rightarrow$ FemaleRecipient	0.442	(0.453)	0.575	(0.560)	-1.094	(0.544)
(2) SX $\rightarrow$ MaleRecipient	0.671*	(0.278)	0.919*	(0.319)	0.239	(0.438)
(3) SX $\rightarrow$ FemaleRecipient	1.089*	(0.342)	1.255	(0.733)	0.841*	(0.371)
(4) FFF $\rightarrow$ MaleRecipient	1.036*	(0.330)	0.887*	(0.425)	0.209	(0.496)
(5) FFF $\rightarrow$ FemaleRecipient	1.474*	(0.413)	1.358*	(0.600)	0.768	(0.474)
P-value: $\Delta_1 = (1) = 0$	0.339		0.315		0.055	
P-value: $\Delta_2 = (3) - (2) = 0$	0.094		0.584		0.046	
P-value: $\Delta_3 = (5) - (4) = 0$	0.250		0.356		0.181	
P-value: SX vs. FFF Difference-in-Difference=0	0.957		0.820		0.932	
P-value: SM vs. FFF Difference-in-Difference=0	0.994		0.856		0.022	
P-value: Difference-in-Difference-in-Difference=0	**0.954**		**0.697**		**0.011**	
Session (Mundlak-Chamberlain)	Yes		Yes		Yes	
Recipient Ethno-religious identity	Yes		N/A		N/A	
Recipient face	Yes		Yes		N/A	
R^2	0.225		0.189		0.202	
Observations	156		78		50	

Notes: The table reports OLS estimates. The unit of observation is a dyad comprising of a SM, SX or FFF female dictator and one of the six recipients. The dependent variable is categorical, ranging from 0 (the dictator gives nothing to the recipient) to 5 (the dictator gives her total endowment to the recipient). "SM $\rightarrow$ FemaleRecipient" is a dummy variable that takes the value 1 if the dictator is SM and the recipient is female, and 0 otherwise. "SX $\rightarrow$ MaleRecipient" is a dummy variable that takes the value 1 if the dictator is SX and the recipient is male, and 0 otherwise. "SX $\rightarrow$ FemaleRecipient" is a dummy variable that takes the value 1 if the dictator is SX and the recipient is female, and 0 otherwise. "FFF $\rightarrow$ MaleRecipient" is a dummy variable that takes the value 1 if the dictator is FFF and the recipient is male, and 0 otherwise. "FFF $\rightarrow$ FemaleRecipient" is a dummy that takes the value 1 if the dictator is FFF and the recipient is female, and 0 otherwise. Standard errors are clustered at the dictator level.

Table 6: Analysis of behavior toward women before migration (Afrobarometer data)

	Spouse present: Model (1)	Summoned others: Model (2)	Influenced by others: Model (3)
(1) Female SM respondent	-0.014	-0.031*	0.034
	(0.013)	(0.013)	(0.016)
(2) Male SX respondent	0.028	-0.034	0.013
	(0.037)	(0.023)	(0.039)
(3) Female SX respondent	-0.048	-0.027	-0.044
	(0.024)	(0.032)	(0.031)
Respondent controls	Yes	Yes	Yes
Interviewer controls	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
P-value: Difference-in-Difference=0	**0.264**	**0.199**	**0.012**
R^2	0.047	0.045	0.040
Observations	497	497	494

Notes: The table reports OLS estimates. The unit of observation is the individual SM or SX respondent in the Afrobarometer survey. The dependent variable in Model (1) is based on Afrobarometer questions Q99 (round 2002) and Q104 (rounds 2005 and 2008). It is a dummy variable coded as 1 if the interviewer noted that the respondent's spouse was immediately present during the interview, and 0 otherwise. The dependent variable in Model (2) is based on Afrobarometer questions Q100 (round 2002) and Q105A (rounds 2005 and 2008). It is a dummy variable coded as 1 if the interviewer noted that the respondent checked with others before answering any question, and 0 otherwise. The dependent variable in Model (3) is based on Afrobarometer questions Q101 (round 2002) and Q105B (rounds 2005 and 2008). It is a dummy variable coded as 1 if the interviewer noted that someone influenced the respondent's answers during the interview, and 0 otherwise. "Female SM respondent" is a dummy variable that takes the value 1 if the respondent is a female SM, and 0 otherwise. "Male SX respondent" is a dummy variable that takes the value 1 if the respondent is a male SX, and 0 otherwise. "Female SX respondent" is a dummy variable that takes the value 1 if the respondent is a female SX, and 0 otherwise. The omitted category is the male SM respondent. "Respondent controls" includes the age and education of the respondent; how often the respondent has gone without food in the previous year; and whether the household is in an urban or rural area. "Interviewer controls" includes the sex, age, education and urban/rural origins of the interviewer. Standard errors are robust and clustered at the regional level. * indicates statistical significance at least at the 5% level.

Figures

Figure 1: Variation in the ethno-religious identity of the recipients

Firstname	**Version 1**	Sylvie	Georges	Khadija	Jean-Marc	Farida	Michel
	Version 2	Sylvie	Mohammed	Joséphine	Jean-Marc	Christine	Aboubacar
Type	**Version 1**	Rooted French	Rooted French	SM	Rooted French	North African	SX
	Version 2	Rooted French	North African	SX	Rooted French	Rooted French	SM